Discrete Mathematics
Volume 204, Numbers 1–3, 6 June 1999

Contents

Preface

I.M. Gessel, L.W. Shapiro and D.G. Rogers 1

Contributions

A. Adelberg
Arithmetic properties of the Nörlund polynomial $B_n^{(x)}$ 5

G.E. Andrews
q-Analogs of the binomial coefficient congruences of Babbage, Wolstenholme and Glaisher 15

C.A. Athanasiadis and S. Linusson
A simple bijection for the regions of the Shi arrangement of hyperplanes 27

E. Barcucci, A.D. Lungo, E. Pergola and R. Pinzani
Directed animals, forests and permutations 41

F.R. Bernhart
Catalan, Motzkin, and Riordan numbers 73

R. Chapman
Moments of Dyck paths 113

T. Chow and J. West
Forbidden subsequences and Chebyshev polynomials 119

W. Chu
Binomial convolutions and determinant identities 129

G.M. Constantine
Identities over set partitions 155

E. Deutsch
An involution on Dyck paths and its consequences 163

E. Deutsch
Dyck path enumeration 167

P. Flajolet and M. Noy
Analytic combinatorics of non-crossing configurations 203

J. Goldwasser, W. Klostermeyer, M. Mays and G. Trapp
The density of ones in Pascal's rhombus 231

L.C. Hsu and P.J.-S. Shiue
On certain summation problems and generalizations of Eulerian polynomials and numbers 237

C. Krattenthaler and M. Schlosser
A new multidimensional matrix inverse with applications to multiple q-series 249

V.E. Leininger and S.C. Milne
Expansions for $(q)_\infty^{n^2+2n}$ and basic hypergeometric series in $U(n)$ 281

Discrete Mathematics
Volume 204, Numbers 1–3, 6 June 1999

Contents

Preface

I.M. Gessel, L.W. Shapiro and D.G. Rogers 1

Contributions

A. Adelberg
Arithmetic properties of the Nörlund polynomial $B_n^{(x)}$ 5

G.E. Andrews
q-Analogs of the binomial coefficient congruences of Babbage, Wolstenholme and Glaisher 15

C.A. Athanasiadis and S. Linusson
A simple bijection for the regions of the Shi arrangement of hyperplanes 27

E. Barcucci, A.D. Lungo, E. Pergola and R. Pinzani
Directed animals, forests and permutations 41

F.R. Bernhart
Catalan, Motzkin, and Riordan numbers 73

R. Chapman
Moments of Dyck paths 113

T. Chow and J. West
Forbidden subsequences and Chebyshev polynomials 119

W. Chu
Binomial convolutions and determinant identities 129

G.M. Constantine
Identities over set partitions 155

E. Deutsch
An involution on Dyck paths and its consequences 163

E. Deutsch
Dyck path enumeration 167

P. Flajolet and M. Noy
Analytic combinatorics of non-crossing configurations 203

J. Goldwasser, W. Klostermeyer, M. Mays and G. Trapp
The density of ones in Pascal's rhombus 231

L.C. Hsu and P.J.-S. Shiue
On certain summation problems and generalizations of Eulerian polynomials and numbers 237

C. Krattenthaler and M. Schlosser
A new multidimensional matrix inverse with applications to multiple q-series 249

V.E. Leininger and S.C. Milne
Expansions for $(q)_\infty^{n^2+2n}$ and basic hypergeometric series in $U(n)$ 281

H. Niederhausen
Recursive initial value problems for Sheffer sequences 319

I. Pak
Reduced decompositions of permutations in terms of star transpositions, generalized Catalan numbers and *k*-ARY trees 329

R.C. Read and E.G. Whitehead Jr.
Chromatic polynomials of homeomorphism classes of graphs 337

T. Shonhiwa
On a class of prime-detecting congruences 357

R. Simion and R.P. Stanley
Flag-symmetry of the poset of shuffles and a local action of the symmetric group 369

R.A. Sulanke
Constraint-sensitive Catalan path statistics having the Narayana distribution 397

R. Vakil
On the Steenrod length of real projective spaces: finding longest chains in certain directed graphs 415

Author index to volume 204 427